

Memory and Hope (1996-2006)

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Sherman: We inhabit an increasingly complicated technological world. We are willing participants in the creation of a second nature. While the biological world is collapsing, we are busy constructing an elaborate media environment. As a means of describing and coping with this second nature, it is useful to apply biological language to our post-biological cultures. This cross disciplinary language is everywhere these days. For example, I'm involved in a think-tank initiated by Ars Electronica in Linz, Austria-our work is culminating in a symposium called "Memesis: the Future of Evolution." The way we're using the metaphor of memesis should be pretty well fleshed out on-line by the time you read this text.

MEMESIS

The main idea of Memesis is that the future of evolution will be cultural. Memes, instead of genes, are and will continue to be the basic building blocks of our evolution. Memes are ideas or concepts (patterns of cognitive behavior), or simply the way things look or sound or feel. The concept of the meme was launched by Richard Dawkins, the evolutionary biologist at Oxford University. In his book "The Selfish Gene," 1976, Oxford University Press, he suggests that living organisms are nothing more than survival machines, subservient to their genes. Genes will or will not survive depending on the bodies they construct. The genes are in the driver's seat. We exist to permit them to replicate. They build our bodies, the vehicles for their mobility and reproduction. These bodies are phenotypes, the physical presence of the gene as it interacts with the environment. And these bodies create extended phenotypes: in other species extended phenotypes are things like birds' nests, beavers' dams; or in the case of humans, extended phenotypes include architecture, art, transportation and communication technology... Extended phenotypes are part of the story of natural selection.

Language springs forth from our bodies as protomemetic soundings. Memes are cultural building blocks, the message forms and contents at the very base of our cultures. Video and film and digital media genres are memes and they too can be said to share the ultimate goal of replication and survival. We build organizations and networks around these memes to facilitate their propagation and replication. Media production coops, exhibition sites or distribution systems can be seen as survival mechanisms for the memes themselves. The memes drive the phenotypes through languages (protomemes) into extended phenotypes, the cultural infrastructure of the organizations and the networks.

Memes are also the basic units of cultural inheritance. They are our thoughts, ideas, images and sounds, carried by our appearances and voices. Emerging from our meme pools, dominant memes are driving our phenotypes into a state of hyper-phenotopia. Our extended phenotypes are becoming more and more extensive and interwoven. The continuous evolution of our extended phenotypical environment becomes particularly apparent in emerging technologies.

Emerging technologies are the new 'species' of extended phenotypes. The development of the phenotypical environment can be seen as a survival strategy for the dominant memes of our times. Obsolete technologies falter and fall away as emerging technologies move in and spread. Memes are altered as they are forced to compete with other memes in the cultural environment. They adapt, or they disappear.

The protomemetic energy of language stirs the meme pools. Memory is the essence of who we are: the present and past combined. Memory is order and certainty. It is controllable through revision. Hope is the future, the unknown, the dream and/or the nightmare. We hope to envision what the future will bring. Our extended phenotypes are right in front of us. Emerging technologies point the way to the future.

Why are we so motivated to find out what tomorrow will bring? Most technology futures are in the stock markets. People play the future hoping to make money. If money's not your game, you may simply want to make sure you're not

outflanked, exploited and destroyed. Or more optimistically, you may wish to seek ways to fulfill your memetic potential as a person/machine entity. Machines R Us. People look to the future so they may seize opportunities as they arise.

PREDICTING THE FUTURE

There are a number of ways of predicting the future. None of them are foolproof. One good rule of thumb is to look back 30 years for every 10 you try to look ahead. Time is a continuum. If we drop back to 1966 and trace a somewhat wiggly line to the present, then we should be able to extend that line 10 years into the future, right around the corner, to the year 2006.

In 1966 we were living with minimal cable TV and wobbly satellites. Computers were strictly for calculating, but there were already lots of cartoons about thinking machines. By 1969 the U.S. Defense Department had set up its own computer net, ARPA Net. Sony introduced Betamax video in 1972 and VHS emerged shortly after. In 1980 Turner fired up CNN, the first 24hour news net. In the early 1980's IBM introduced its first personal computer (1981) and the U.S. government created NSFnet (National Science Foundation Net, 1983), the germ of the Internet. In 1989 the World Wide Web was created in Geneva, Switzerland. In 1993 Bell Core transmitted full-motion video over standard twisted pair telephone wires.

Artists during this stretch were busy, desperately engineering their own kind of memes or at least they were trying to serve, conserve and preserve the interests and integrity of waves of naturally emerging alternative memes. After a decade of abstract expressionism by alcoholic men, around 1963 advertising spilled over into fine art with Pop Art and then there was one last gasp of modernism, an attempt to separate art from the world at large again: minimalism and conceptual art.

ANALOG-TO-DIGITAL

By 1969-72 video art was finding life-support on a growing equipment base and it rose quickly with the energy of the sixties and the desire for peace, along with environmental and feminist concerns. By the mid70's women made up half of the video and performance artists in the Western World. Then in the 1980's art became all tangled up in entertainment and things were so fucked up for a while that painting as a real estate business actually made a comeback. First artists were critical of entertainment, wanting only to inhabit its seductive forms to attract and subvert an audience. But unfortunately many artists became indistinguishable from entertainers. This was supposed to be a strategy for survival, but it has left most artists beached and endangered in the 1990's. In the Information Era, information is a commodity and art is linked with entertainment. In the emerging information economy, art has been pigeonholed as nothing more than difficult entertainment.

Dropping back to consider our recent history in more detail, let me say that I've been tracking the relationships of artists and art to emerging technologies since the early 1970's. As an artist I hitched a ride on the emergence of video but couldn't help but notice the digital rhetoric rising to the surface between 1972-74. I remember how all the shortcomings of analog video were addressed by a then inevitable but still inconceivable digital future. There was a lot of speculation about analog-to-digital conversion, mostly to improve editing and dubbing, and therefore the reproduction or perhaps more correctly the replication of our messages.

The socio-political drive during the 70's was to gain access to the means of production, distribution and exhibition: access to equipment, distribution systems and exhibition sites (i.e. audiences). Our memes, which carried different values than the predominant memes of mass or popular culture, could not survive without a contemporary media environment of extended phenotypes. Meanwhile, our societies' predominant array of extended phenotypes were transforming from analog to digital.

REAL-TIME DIGITAL

By the end of the seventies a minority of artists had made the compromises necessary to gain access to digital technologies. They had either become researchers or mascots (creative types, the fashionably hip) for governments or corporations. They had gained access to the digital technologies that only governments and corporations could provide. In 1979 I was working on a contract with TV Ontario in Toronto, conducting research for a television series called "Fast Forward." "Fast Forward" dealt with how the emergence of digital technologies would affect various sectors of society. My contract was for the development of the episode on the arts. After talking to literally hundreds of people on the phone and examining the video they sent us, the program ended up featuring Steina and Woody Vasulka, Kit Galloway and Sheri

Rabinowitz, Richard Lowenberg, and Laurie Anderson, among many others. The buzzwords of the day were real-time digital. The visual artists envied the musicians and composers because digital audio, with its relatively modest bandwidth, could already be made and shared in real-time. The hope was for real-time digital multimedia including a live visual, moving image component.

Throughout the eighties I was privileged to watch things develop as an official in The Canada Council, Canada's national arts funding agency. We launched the Computer-Integrated Media grant program in 1983, anticipating the importance of the digital arts. In 1986 I was also involved in curating digital works for a major exhibition, "Art, Technology and Informatics," at the Venice Biennale. This show featured an international network of communications artists, artists who had worked collaboratively in global networking as an end in itself for years. Real-time digital had arrived, somewhat lamely in the form of low-resolution slow-scan video, decent audio (over standard phonelines) and shared-screen text and drawing experiments. The whole Venice exhibition was organized and held together by an e-mail network based on a commercial business network called the I.P.Sharp Associates system that had been used quite extensively, prior to widespread use of the Internet, by telecom artists since the early 80's.

To get a perspective on how much as happened since this Venice show in 1986, fax machines were still relatively rare during this period. Artists were still going to a lot of trouble organizing collaborative city-to-city fax exchange shows using donated, then still expensive, fax machines. This same year the prices of fax machines plunged and there was an astonishingly rapid assimilation of telefacsimile technology throughout the telephonic world.

By the end of the 1980's there had been major advances in personal computing and networking and remote sensing, optical memory, robotics, smart systems and artificial intelligence. There was an explosion in the complexity and power of our extended phenotypes. Primitive forms of artificial life were beginning to emerge (the first digital technologies in the form of life-forms). While this was a period of exotic technological change, artists and arts organizations were becoming very interested in rather ordinary things, like computer databases. While building databases appeared pedestrian and hopeless, this was smarter work than it seemed at the time. Only those who would get their data organized would be prepared for the browsing public. To restate the obvious: art will become difficult entertainment in the Information Era.

Another type of artists were obsessed with inventing new technology to suit their needs. These were the hands-on inventor types. Digital tool-making was and still is a popular preoccupation with several artists. Process has replaced product, except where tools are concerned. This is an R&D role for creative entrepreneurial types. There are big bucks in tools: hardware, software and all future in-between-ware. Sophisticated multimedia emerged integrating light and sound, dance and music and images, canned and live images simultaneously. Multimedia linked the statistical and anecdotal, and the virtual and real. Unfortunately, the technologies reinforce, if not create, a class system where the tool-makers are more often thought of as professionals and the tool-users as amateurs.

VIDEO DIAL TONE

This takes us up to the present, so now we can look out into the future. I've organized my thinking on the near future by borrowing heavily from John Pavlik's "New Media and the Information Superhighway," 1996, Allyn and Bacon. I have of course distorted his ideas to suit my somewhat more intuitive approach. We are still chasing the dream of real-time digital, but we are getting closer and closer. While we continue to spend too much time waiting for files to download and unpack, the gap is closing. Digital media are beginning to behave like analog media. The next big breakthrough will be video dial tone. We'll just order movies at home using computers connected by phonelines. Movies will be digitized and loaded onto video servers and true video-on-demand will be a reality. This is one major part of the information market the Baby Bells want to capture. To make video-on-demand work they will have offer full control on the user-end: play, fast forward, rewind, stop, pause... This, the Baby Bell executives tell us, will be the era of the 25 cent movies (talk is cheap while the systems are still just hype). But the message is: do not buy stock in chains of videomovie rental stores.

COPING WITH ABUNDANCE

With corporations the scale and influence of Microsoft and AT&T involved in fusing telephone, broadcasting, publishing and cable into one industry, 25 cent movies will eventually compete with 15 cent stock market tips and 5 cent glimpses of our favorite body types. The main challenge for the information consumer is and will continue to be coping with abundance. There will be a need for personal informational services, navigational and preference enforcing tools. Personal digital appliances, multiple generations beyond the Apple Newton, will become important survival tools.

Besides just coping with abundance and managing to shovel through all the crap to find useful information, what emerging technologies will be useful for independent, alternative media producers in the near future? The answer is that all extended phenotypes are and will be potentially important for memetic replication and survival. Just survey the media environment to find a place to play. Look at what's happening on desktops alone! Desktop publishing. Desktop video. The desktop darkroom, sound studio, radio station, video performance cabaret... The virtual city and countryside on a desktop... Network your desktops.

In coping with abundance there is a lot of thought and programming going into intelligent agents, personal artificially intelligent assistants that learn by observation, make decisions, filter incoming information, select and model data for their owners. Artists could devise agents that perceive and conceptualize life as art. Artists will create intelligent agents that control and destroy stereotypical traps and force their owners to stick to the high road of prototypical and atypical perceptions, expressions and lifestyles.

SENSORY DIMENSION SHIFTS & PERCEPTUAL JACKING

Information graphics will continue to be a huge growth area. People will need to be able to SEE patterns and relationships in complex fields of data. Sonification, the depiction of visual information in sonic forms, also has potential, as do 3-D and virtual environments. All kinds of sensory translations, sensory dimension shifts and perceptual jacking will be useful in refreshing and rehabilitating the numb and burned out masses in our societies. Artists will have an edge in transposing, transmutating and transmorphifying (to alter radically with humorous or grotesque effects) data and information.

With the development of computer-network transactional services (home shopping, travel reservations, banking and bill paying), it is conceivable that all information transactions will be logged and be subjected to billing. Cultural, and even eventually perceptual transactions, will be quantified and metered by time and bandwidth. Art and culture on the Net will produce income for artists when the value of the information becomes apparent.

Encryption, securing the privacy of messages and nature of information consumption, will be a major area of concern. As people are given the option of selecting highly personalized information interactively, personal-info consumption profiles will be very revealing. Privacy issues will become paramount especially as the idea of information moves away from facts and begins to reflect emotional realities. Info-consumers, no matter how demanding, will not want to flaunt their emotional needs and desires. Artists, experienced in surviving the expression of emotional needs and desires, may offer protection for the overly exposed. Aesthetic coding, as a means of obscuring the explicitness of emotional causality, may become far more interesting to a broader public as the demand for privacy and encryption increases.

EMERGING TECHNOLOGIES ARE NEW TERRITORIES

The above speculation questions how emerging technologies may be used by artists for their survival. As artists we have our own memes to replicate and pretending that we can ignore the digital revolution is useful only for temporary psychological relief. Emerging technologies are new territories, frontiers, where the quick will inherit the ground, if only to hold it temporarily. Remember, the primary goal is to replicate and adapt to changes in the environment. And to seek new ground when forced to move on. And don't forget endangered, obsolete and wholly discarded technologies. Old media territories can be revitalized and used to sustain endangered ideas and emotions. Territory is territory in the survival game and technologies seldom become extinct, unlike biological species. Obsolete technologies decrease in monetary value for a time until they become the terrain of traditional artforms or simply devolve into antiques. In other words, obsolescing technologies are also shifting ground, but they're far less volatile and hostile an environment than that of emerging technologies.

CULTURAL MATCH-MAKERS ARE PARTICULARLY AT RISK

Everyone is threatened by the speed of change these days. Artists should count their blessings given their highly refined sense of identities, finely tuned instincts and real skills. The professional sect that artists have traditionally depended on are in a far more precarious position these days. The curators, publishers, programmers and producers-those operating out of institutions and organizations like museums, galleries, artist-run centers, clubs-these middlemen and middlewomen, these are the threatened roles in a digital era characterized by direct marketing, mail-order distribution and desktop dissemination. The digital force is ultimately desocializing and cultural matchmakers are particularly at risk.

Most emerging technologies are attractive because they offer new degrees of interactivity. Interactivity, the immediate control of proximity, is valued highly in cultures obsessed with speed and instant, perhaps superficial intimacy. Is it any surprise when contemplation and analysis are ghettoized in shrinking intellectual circles? Theorists like Roy Ascott in the UK are declaring that the period of analysis of representation is over and done with. The post- biological universe, our second nature in all its glory and horror, is under construction and those who hesitate to don a construction hat will simply have to inhabit someone else's world. Critical thinking will, of course, continue. To contextualize and define one's position is an adaptive strategy and is essential to social engagement.

THE USER IS THE CONTENT OF ANY NEW MEDIUM

In concluding this muse on emerging technologies and their potential for creative people, it is important to understand that the user is always the content of any new medium. Marshall McLuhan said this first and Microsoft, AT&T, the Baby Bells and all the thousands of desktop meme-replicators should keep this in mind whenever they look to create or inhabit new or obsolescing phenotypical territory. Until such time as machines themselves are the primary users of emerging technologies (and unfortunately this is not unimaginable), human needs and desires will determine the path of technological development. This forty-year growth cycle of Memory and Hope can be compressed into one primary objective: to accomplish real-time digital communication and expression. In other words, to accomplish analog realities using binary code.

So far we have digital technologies for reproducing and permitting more interactive access to reproductions of analogic experiences. Symbolic digital communication and expression, such as text and clearly symbolic image exchange, is possible in real-time digital. Computer music can be created and shared with an audience in real time, but the actual nature of digital music is revealing. When was the last time you experienced satisfying emotional content in a piece of music created with synthesizers or rhythm machines? The missing content in emerging digital technologies is human emotion: outrage, anger, isolation, sadness, frustration, anxiety, affection, love. The missing people in the digital world are emotional people. Their memes do not flourish in the territories of the emerging technologies. Not yet.

I came to this realization one night while I was surfing the Net, the realization that the digital culture, as it exists so far, has an emotional vacuum that far outstrips the content crisis more commonly decried. I have a CD player in my PC and I was listening to John Coltrane at pretty high volume under headphones as I experienced the webness of some new, fully dressed multi-media publications on the World Wide Web. I was listening to Coltrane's "Expression", a digitally re-mastered set of recordings from 1967, towards the end of his life where he takes you through an emotional terrain in twenty minutes that rivals the emotional content of most people's entire lives. This is compressed emotion designed to disturb by its hypersensitivity and sheer intensity and density. There is a solo titled "Offering" that is so powerful it creates an uncomfortably warm zone of emotional memory in my chest every time I listen to it. I can never get over how much Coltrane could feel, let alone how effectively he could share his feelings with me. His sax is an extended phenotype but the linkage is so essentially analog and direct. When was the last time you were moved by art originated in digital media?

Emotional tone will naturally fill all digital forms over the next decade. No matter what permutations of new technologies emerge, emotional people will eventually flesh out sterile digital territories until now inadequate for the exchange and appreciation of normal human emotions.